



SEQUENCE LISTING

<110> Gladyshev et al.

<120> MAMMALIAN SELENOPROTEIN DIFFERENTIALLY EXPRESSED IN TUMOR CELLS

<130> 4239-56113

<140> US 09/676,718

<141> 2000-09-28

<150> PCT/US99/07560

<151> 1999-04-06

<150> US 60/080,850

<151> 1998-04-06

<160> 19

<170> PatentIn version 3.1

<210> 1

<211> 162

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (93)..(93)

<223> Xaa is selenocysteine

<400> 1

Met Ala Ala Gly Pro Ser Gly Cys Leu Val Pro Ala Phe Gly Lys Arg
1 5 10 15

Leu Leu Leu Ala Thr Val Leu Gln Ala Val Ser Ala Phe Gly Ala Glu
20 25 30

Phe Ser Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser Asn Leu Leu
35 40 45

Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu Gln Leu Asp
50 55 60

Pro Asp Cys Arg Gly Cys Cys Gln Glu Glu Ala Gln Phe Glu Thr Lys
65 70 75 80

Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly Xaa Lys Leu Gly
85 90 95

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Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys Pro Lys Leu
100 105 110

Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp Pro Val Leu
115 120 125

Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu Ser Ile Leu
130 135 140

Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu Lys Leu Glu
145 150 155 160

Arg Ile

B7W
<210> 2
<211> 1244
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (5)..(493)
<223>

<220>
<221> misc_feature
<222> (281)..(283)
<223> TGA codon codes for selenocysteine

<400> 2
agcg atg gcg gct ggg ccg agt ggg tgt ctg gtg ccg gcg ttt ggg cta 49
Met Ala Ala Gly Pro Ser Gly Cys Leu Val Pro Ala Phe Gly Leu
1 5 10 15

cggttg ttg ttg gcg act gtg ctt caa gcg gtg tct gct ttt ggg gca 97
Arg Leu Leu Ala Thr Val Leu Gln Ala Val Ser Ala Phe Gly Ala
20 25 30

gag ttt tca tcg gag gca tgc aga gag tta ggc ttt tct agc aac ttg 145
Glu Phe Ser Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser Asn Leu
35 40 45

ctt tgc agc tct tgt gat ctt ctc gga cag ttc aac ctg ctt cag ctg 193
Leu Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu Gln Leu
50 55 60

gat cct gat tgc aga gga tgc tgt cag gag gaa gca caa ttt gaa acc 241
Asp Pro Asp Cys Arg Gly Cys Cys Gln Glu Ala Gln Phe Glu Thr

65	70	75	
aaa aag ctg tat gca gga gct att ctt gaa gtt tgt gga tga aaa ttg Lys Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly Lys Leu	80 85	90	289
gga agg ttc cct caa gtc caa gct ttt gtt agg agt gat aaa ccc aaa Gly Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys Pro Lys	95 100	105	337
ctg ttc aga gga ctg caa atc aag tat gtc cgt ggt tca gac cct gta Leu Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp Pro Val	115	120	385
tta aag ctt ttg gac gac aat ggg aac att gct gaa gaa ctg agc att Leu Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu Ser Ile	130	135	433
ctc aaa tgg aac aca gac agt gta gaa gaa ttc ctg agt gaa aag ttg Leu Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu Lys Leu	145	150	481
gaa cgc ata taa atcttgctta aattttgtcc tatccttttgc ttaccttatac Glu Arg Ile	160		533
aaatgaaata ttacagcacc tagaaaataa ttttagtttg cttgcttcca ttgatcagtc			593
ttttacttga ggcattaaat atctaattaa atcgtgaaat ggcagtatag tccatgatat			653
ctaaggagtt ggcaagctta acaaaaaccca tttttataaa atgtccatcc tcctgcattt			713
gttgatacc ctaacaaaat gctttgtAAC agacttgcgg ttaattatgc aaatgatagt			773
ttgtgataat tggccagtt ttacgaacaa cagatttcta aattagagag gttaacaaga			833
cagatgatta ctatgcctca tgtgctgtgt gctctttgaa aggaatgaca gcagactaca			893
aagcaaataa gataactga gcctcaacag attgcctgct cctcagagtc tctcctattt			953
ttgttattacc cagctttctt tttaatacaa atgttattta tagttacaa tgaatgcact			1013
gcataaaaaac tttgttagctt cattattgtA aaacatattc aagatcctac agtaagagt			1073
aaacattcac aaagatttgc gttaatgaag actacacaga aaacctttct agggatttgt			1133
gtggatcaga tacatacttg gcaaatttt gagtttaca ttcttacaga aaagtccatt			1193
taaaaagtgtat catttgtaag accaaaatat aaataaaaag tttcaaaaat c			1244

b2
n1

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<210> 3
<211> 489
<212> DNA
<213> Homo sapiens

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<220>

<221> CDS
 <222> (1) .. (489)
 <223>

<220>
 <221> misc_feature
 <222> (277) .. (279)
 <223> TGA codon codes for selenocysteine

<400>	3															
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Met	Ala	Ala	Gly	Pro	Ser	Gly	Cys	Leu	Val	Pro	Ala	Phe	Gly	Leu	Arg	
1	5							10						15		
ttg	ttg	ttg	gct	act	gtg	ctt	caa	gct	gtg	tct	gct	ttt	ggg	gca	gag	96
Leu	Leu	Leu	Ala	Thr	Val	Leu	Gln	Ala	Val	Ser	Ala	Phe	Gly	Ala	Glu	
20								25						30		
ttt	tca	tcg	gag	gca	tgc	aga	gag	tta	ggc	ttt	tct	agc	aac	ttg	ctt	144
Phe	Ser	Ser	Glu	Ala	Cys	Arg	Glu	Leu	Gly	Phe	Ser	Ser	Asn	Leu	Leu	
35								40						45		
tgc	agc	tct	tgt	gat	ctt	ctc	gga	cag	ttc	aac	ctg	ctt	cag	ctg	gat	192
Cys	Ser	Ser	Cys	Asp	Leu	Leu	Gly	Gln	Phe	Asn	Leu	Leu	Gln	Leu	Asp	
50								55						60		
cct	gat	tgc	aga	gga	tgc	tgt	cag	gag	gaa	gca	caa	ttt	gaa	acc	aaa	240
Pro	Asp	Cys	Arg	Gly	Cys	Cys	Gln	Glu	Ala	Gln	Phe	Glu	Thr	Lys		
65								70						80		
aag	ctg	tat	gca	gga	gct	att	ctt	gaa	gtt	tgt	gga	tga	aaa	ttg	gga	288
Lys	Leu	Tyr	Ala	Gly	Ala	Ile	Leu	Glu	Val	Cys	Gly		Lys	Leu	Gly	
								85						95		
agg	ttc	cct	caa	gtc	caa	gct	ttt	gtt	agg	agt	gat	aaa	ccc	aaa	ctg	336
Arg	Phe	Pro	Gln	Val	Gln	Ala	Phe	Val	Arg	Ser	Asp	Lys	Pro	Lys	Leu	
								100						110		
ttc	aga	gga	ctg	caa	atc	aag	tat	gtc	cgt	ggt	tca	gac	cct	gta	tta	384
Phe	Arg	Gly	Leu	Gln	Ile	Lys	Tyr	Val	Arg	Gly	Ser	Asp	Pro	Val	Leu	
115								120						125		
aag	ctt	ttg	gac	gac	aat	ggg	aac	att	gct	gaa	ctg	agc	att	ctc		432
Lys	Leu	Leu	Asp	Asp	Asn	Gly	Asn	Ile	Ala	Glu	Glu	Leu	Ser	Ile	Leu	
130								135						140		
aaa	tgg	aac	aca	gac	agt	gta	gaa	gaa	ttc	ctg	agt	gaa	aag	ttg	gaa	480
Lys	Trp	Asn	Thr	Asp	Ser	Val	Glu	Glu	Phe	Leu	Ser	Glu	Lys	Leu	Glu	
145								150						155		
cgc	ata	taa														489
Arg	Ile															
160																

b2
Cont

<210> 4
<211> 136
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (67)..(67)
<223> Xaa is selenocysteine

<400> 4

Ser Ala Phe Gly Ala Glu Phe Ser Ser Glu Ala Cys Arg Glu Leu Gly
1 5 10 15

Phe Ser Ser Asn Leu Leu Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe
20 25 30

Asn Leu Leu Gln Leu Asp Pro Asp Cys Arg Gly Cys Cys Gln Glu Glu
35 40 45

Ala Gln Phe Glu Thr Lys Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val
50 55 60

Cys Gly Xaa Lys Leu Gly Arg Phe Pro Gln Val Gln Ala Phe Val Arg
65 70 75 80

B 2
conf
Ser Asp Lys Pro Lys Leu Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg
85 90 95

Gly Ser Asp Pro Val Leu Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala
100 105 110

Glu Glu Leu Ser Ile Leu Lys Trp Asn Thr Asp Ser Val Glu Glu Phe
115 120 125

Leu Ser Glu Lys Leu Glu Arg Ile
130 135

<210> 5
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 5
atggcggctg ggccgagtgg g

21

<210> 6
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 6
taatatgcgt tccaaacctttt c

21

<210> 7
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 7
tctgcttttg gggcagagtt t

21

b2
<210> 8
<211> 1216
<212> DNA
<213> Mus musculus

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<220>
<221> CDS
<222> (11)..(490)
<223>

<220>
<221> misc_feature
<222> (287)..(289)
<223> TGA codon codes for selenocysteine

<400> 8
gaccgcaggg atg gcg gca ggg cag ggt ggg tgg ctg cgg cca gct ctg
Met Ala Ala Gly Gln Gly Gly Trp Leu Arg Pro Ala Leu
1 5 10

49

ggg ctg cgc ttg ctg ctg act gcg ttt caa gcg gtg tct gct ctg
Gly Leu Arg Leu Leu Ala Thr Ala Phe Gln Ala Val Ser Ala Leu
15 20 25

97

ggg gca gag ttt gcg tca gag gca tgc aga gag ttg ggt ttc tcc agc
Gly Ala Glu Phe Ala Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser
30 35 40 45

145

aac ttg ctc tgc agc tct tgc gat ctt ctt gga cag ttt aat ctg ctc Asn Leu Leu Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu	50	55	60	193
cca ctg gac cct gtt tgc aga ggg tgc tgt cag gaa gaa gca caa ttt Pro Leu Asp Pro Val Cys Arg Gly Cys Cys Gln Glu Glu Ala Gln Phe	65	70	75	241
gaa acc aaa aag ctg tat gca gga gcc atc ctt gaa gtc tgc gga tga Glu Thr Lys Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly	80	85	90	289
aaa ttg ggg agg ttc cct caa gtc caa gct ttt gtc aga agt gat aaa Lys Leu Gly Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys	95	100	105	337
ccc aaa ctc ttc aga ggt cta cag atc aag tat gtt cga ggc tca gac Pro Lys Leu Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp	110	115	120	385
cct gta cta aag ctt ttg gac gac aac ggg aac att gct gaa gaa cta Pro Val Leu Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu	125	130	135	140
agc atc ctc aaa tgg aac aca gac agt gtg gaa gag ttc ctg agc gag Ser Ile Leu Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu	145	150	155	481
aag ttg gaa cgcatataaa catgcttagt agttttata ctaatcaaat Lys Leu Glu				530
<i>D2</i> <i>UV</i>				
gaattatcac agcacctaga caataactta gtttgcatg cttacattgg tcatccttt tatgtacatc attaatcttc tgacaagaag ctgaagtagc accacagtcc ataatatatc				590
aggatctggc aagcttaagg aaccagctc tttagaaattt ctcttcttct acacttgtg ctctcaccag tgaaacgctt tgtaaggagg catctggta attatgcaaa taagtttg				710
ataattgctc cagttctaca aacaacagaa ttttaatag aggaagtgga taaaggagac acctcccttg ctgtgtgctc tttgaaagta attgacagaa aactacaaac acgttaggatg				830
ccctgcgcct cagcagcacc cacccagag cctcttggcg tgcccagctt tctttcagt acaagtattt gtatggta atgaatgtgc cacatacagg tttttagt tattattatg				890
gaacagactg aagatctgca gtacgaatgt aatacttata aaggtttgca ttaatgagga ttacacagaa aacctttgtt aaggacttgt gtatgtcga taattggcaa atttttat				1070
taaaagtattt cttacagaag agttccattt aagaatgttc acttataatgg caaaaatata aataaaaaact ttcaaatatg aaaaaaa				1130
				1190
				1216

<210> 9
<211> 162
<212> PRT
<213> Mus musculus

<220>
<221> SITE
<222> (93)..(93)
<223> Xaa is selenocysteine

<400> 9

Met Ala Ala Gly Gln Gly Gly Trp Leu Arg Pro Ala Leu Gly Leu Arg
1 5 10 15

Leu Leu Leu Ala Thr Ala Phe Gln Ala Val Ser Ala Leu Gly Ala Glu
20 25 30

Phe Ala Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser Asn Leu Leu
35 40 45

Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu Pro Leu Asp
50 55 60

Pro Val Cys Arg Gly Cys Cys Gln Glu Glu Ala Gln Phe Glu Thr Lys
65 70 75 80

b2
Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly Xaa Lys Leu Gly
85 90 95

Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys Pro Lys Leu
100 105 110

Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp Pro Val Leu
115 120 125

Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu Ser Ile Leu
130 135 140

Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu Lys Leu Glu
145 150 155 160

Arg Ile

<210> 10
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 10
atggcggcag ggcagggtgg 20

<210> 11
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 11
tatgcgttcc aacttctcgc t 21

B2
Cerv
<210> 12
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 12
cagacttgcg gttaattatg 20

<210> 13
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 13
gccaaatgtatg tatctgatcc 20

<210> 14
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 14
ggcatagtaa tcatctgtct tgg 24

<210> 15
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 15
gtatgtatct gatccacaca aatcc 25

<210> 16
<211> 152
<212> PRT
<213> *Caenorhabditis elegans*

<220>
<221> SITE
<222> (129) .. (129)
<223> Xaa is any amino acid

<400> 16

Gly Trp Val Ile Phe Leu Leu Leu Ala Ala Val Val Ser Pro Met Phe
1 5 10 15

B2
WV

Gly Glu Val Glu Glu Tyr Lys Ile Asp Val Glu Glu Cys Lys Ala Ala
20 25 30

Gly Phe Asn Pro Glu Thr Leu Lys Cys Gly Leu Cys Glu Arg Leu Ser
35 40 45

Asp Tyr His Leu Glu Thr Leu Leu Thr Asp Cys Leu Gln Cys Cys Ile
50 55 60

Lys Glu Glu Glu Phe Lys His Glu Lys Tyr Pro Thr Ala Ile Leu Glu
65 70 75 80

Val Cys Glu Cys Asn Leu Ala Arg Phe Pro Gln Val Gln Ala Phe Val
85 90 95

His Lys Asp Met Ala Arg Gln Phe Gly Gly Lys Val Lys Val Lys His
100 105 110

Val Arg Gly Val Arg Pro Gln Val Ala Leu Lys Asp Ala Asp Phe Lys
115 120 125

Xaa Lys Glu Val Leu Ser Val Glu Lys Trp Asp Thr Asp Thr Leu Ile
130 135 140

Asp Phe Phe Asn Gln Trp Leu Glu
145 150

<210> 17
<211> 89
<212> PRT
<213> Brugla malayi

<400> 17

Lys Asp Tyr Ala Glu Met Glu Gln Glu Lys Tyr Pro Arg Ala His Ile
1 5 10 15

Glu Ile Cys Glu Cys Asn Leu Gly Arg Phe Pro Gln Ala Glu Ala Phe
20 25 30

Val Lys Ser Asn Met Val Lys Lys Trp Gly Thr Cys Val Lys Val His
35 40 45

His Val Arg Gly Thr Leu Pro Thr Ile Lys Leu Leu Asp Ala Gln Gly
50 55 60

Glu Val Gln Lys Thr Met Asn Ile Glu Lys Trp Asp Thr Asp Thr Ile
65 70 75 80

Thr Glu Phe Leu Asn Thr Trp Leu Glu
85

<210> 18
<211> 39
<212> PRT
<213> Oryza sativa

<400> 18

Gly Arg Arg Leu Val Leu Thr Ser Cys Ser Val Leu Cys Leu Gly Ala
1 5 10 15

Glu Gly Phe Gly Ala Arg Glu Cys Glu Glu Leu Gly Phe Thr Gly Leu
20 25 30

Ala Leu Cys Ser Asp Cys Asn
35

<210> 19
<211> 75
<212> DNA
<213> Homo sapiens

B2/
<400> 19
ggggggtttt catctatgag ggtgttcct ctaaacctac gagggaggaa cacctgatct 60
tacagaaaaat accac 75